

TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF5G42, SF5J42

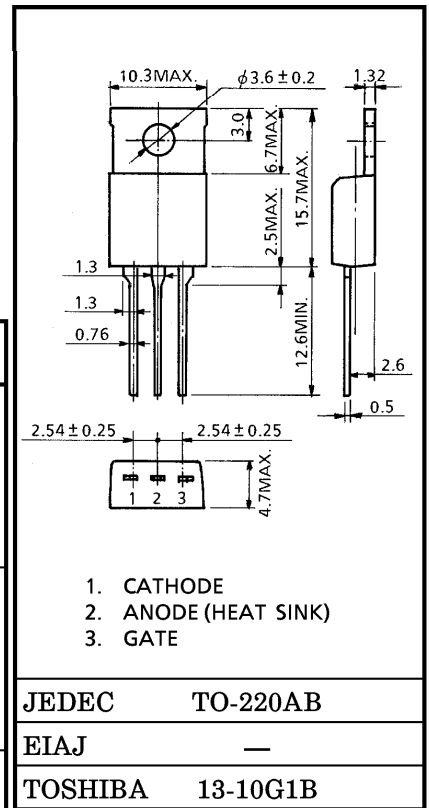
MEDIUM POWER CONTROL APPLICATIONS

Unit in mm

- Repetitive Peak Off-State Voltage : V_{DRM} } = 400, 600V
 Repetitive Peak Reverse Voltage : V_{RRM} }
- Average On-State Current : $I_{T(AV)} = 5A$
- JEDEC TO-220AB Package.

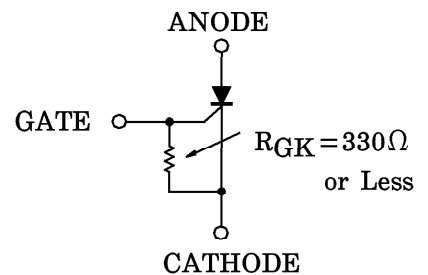
MAXIMUM RATINGS

CHARACTERISTIC		SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage ($R_{GK} = 330\Omega$)	SF5G42	V_{DRM} V_{RRM}	400	V
	SF5J42		600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $T_j = 0 \sim 125^\circ C$, $R_{GK} = 330\Omega$)	SF5G42	V_{RSM}	500	V
	SF5J42		720	
Average On-State Current (Half Sine Waveform $T_c = 91^\circ C$)		$I_T(AV)$	5	A
R.M.S On-State Current		$I_T(RMS)$	7.8	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		I_{TSM}	80 (50Hz)	A
			88 (60Hz)	
I^2t Limit Value		I^2t	32	A^2s
Peak Gate Power Dissipation		P_{GM}	0.5	W
Average Gate Power Dissipation		$P_G(AV)$	0.05	W
Peak Forward Gate Voltage		V_{FGM}	5	V
Peak Reverse Gate Voltage		V_{RGM}	-5	V
Peak Forward Gate Current		I_{GM}	200	mA
Junction Temperature		T_j	-40~125	$^\circ C$
Storage Temperature Range		T_{stg}	-40~125	$^\circ C$



Weight : 2g

Note : Should be used with gate resistance as follows.



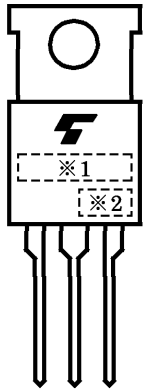
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

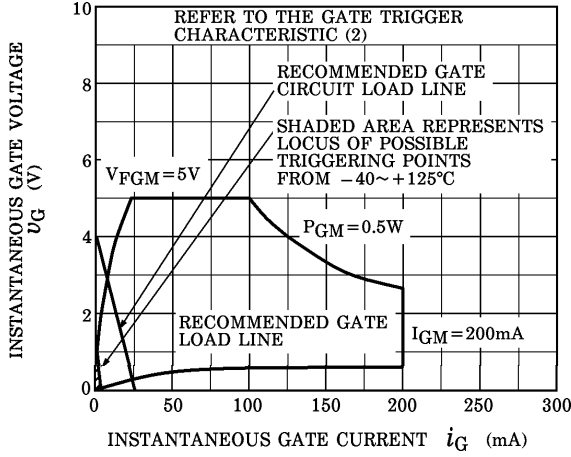
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I _{DRM} I _{RRM}	V _{DRM} = V _{RRM} = Rated T _j = 125°C, R _{GK} = 330Ω	—	—	2	mA
Peak On-State Voltage	V _{TM}	I _{TM} = 15A	—	—	1.6	V
Gate Trigger Voltage	V _{GT}	V _D = 6V, R _L = 100Ω R _{GK} = 330Ω	—	—	0.8	V
Gate Trigger Current	I _{GT}		—	—	200	μA
Gate Non-Trigger Voltage	V _{GD}	V _D = Rated × 2 / 3, T _c = 125°C	0.2	—	—	V
Critical Rate of Rise of Off-State Voltage	dv / dt	V _{DRM} = Rated × 2 / 3, T _c = 75°C R _{GK} = 330Ω, Exponential Rise	—	50	—	V / μs
Holding Current	I _H	R _L = 100Ω, R _{GK} = 330Ω	—	4	—	mA
Thermal Resistance	R _{th(j-c)}	Junction to Case	—	—	3	°C / W

MARKING

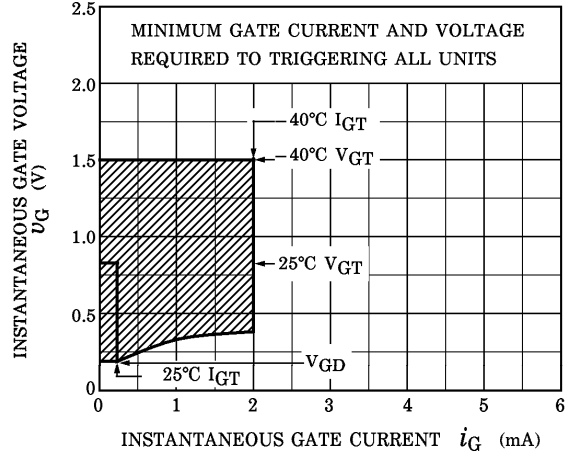


NUMBER	SYMBOL		MARK
※1	TYPE	SF5G42	SF5G42
		SF5J42	SF5J42
※2	Lot Number Month (Starting from Alphabet A) Year (Last Decimal Digit of the Current Year)		Example 8A : January 1998 8B : February 1998 8L : December 1998

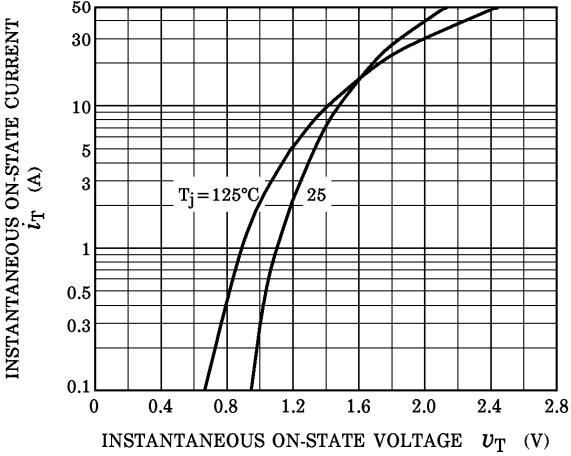
GATE TRIGGER CHARACTERISTIC (1)



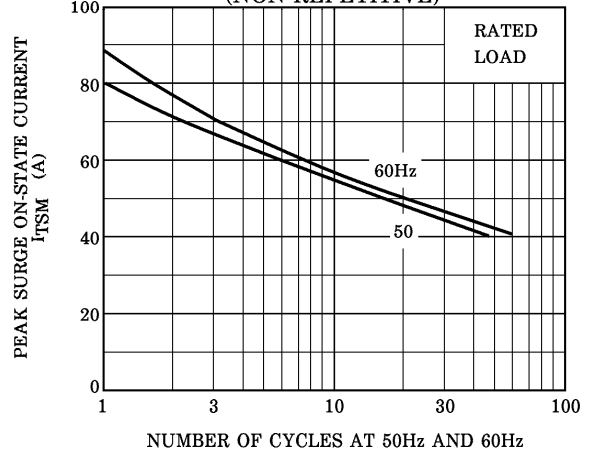
GATE TRIGGER CHARACTERISTIC (2)



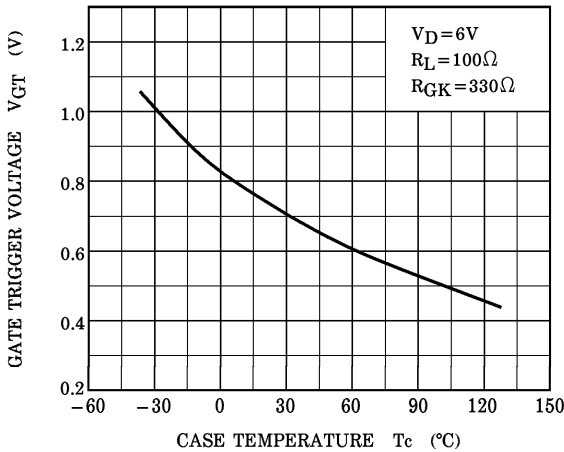
$i_T - v_T$



SURGE ON-STATE CURRENT (NON-REPETITIVE)



$V_{GT} - T_c$ (TYPICAL)



$I_{GT} - T_c$ (TYPICAL)

